

## **A novel approach in vibration absorption application**

### **Abstract**

This research article described a conceptual magnetic absorber system and proposed a new concept in vibration energy absorption system using magnetic force energy. Conventionally passive absorbers are used for suppression of vibration energy which worked on contact force methods, these methods have several limitations and disadvantages besides that, the reliability and maintenance are also main constraints in these conventional absorbers. The proposed technique uses the potential magnetic force energy which is frictionless and non-contact method. The proposed magnetic absorber system worked on the principle of opposite polarity repelling force theory and NdFeB35 permanent magnet are used for experimental purpose. In this paper simple conceptual model has been developed and presented to illustrate the magnetic flux pattern “B” and the force “F”, that exist in the system. The non-contact repelling force generate when the magnetic field from same polarity place on oppositely thus repel each other. Simulation result shows that magnetic force increased proportionally along with increasing of air gap. This paper also compared the results with previous proposed model concept. Comparison results proved that the force exist on new proposed conceptual model is greater than previous and proposed technique can give better results in vibration energy absorption applications.

**Keywords** — Absorbers, dampers, magnetic force and elsto-materials